

Lesson 14

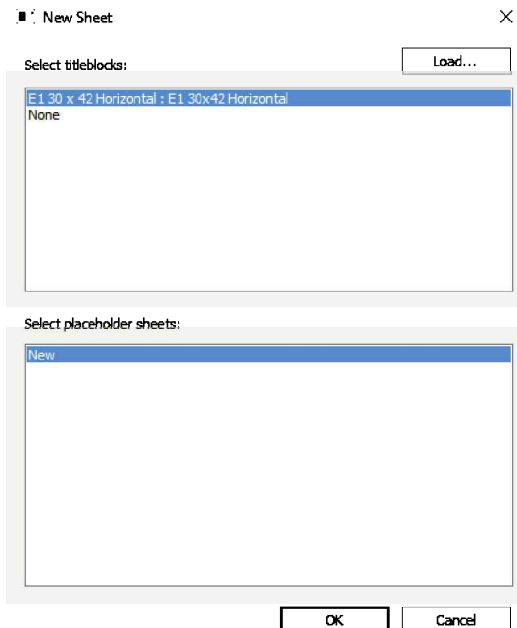
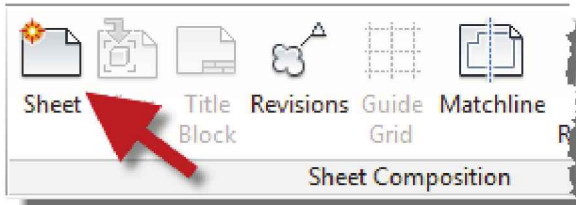
CONSTRUCTION DOCUMENTS SET:

This lesson will look at bringing everything you have drawn thus far together onto sheets. The sheets, once set up, are ready for plotting. Basically, you place the various views you have created on sheets. The scale for each view is based on the scale you set while drawing that view, which is important to have set correctly because it affects the text and symbol sizes. When finished setting up the sheets, you will have a set of drawings ready to print, individually or all at once. See the view on sheets for additional information.

Exercise 14-1: Setting Up a Sheet

Creating a Sheet View:

1. Open ex13-5.rvt and **Save As** 14-1.rvt.
2. Select **View** → **Sheet Composition** → **New Sheet**.



Next Revit will prompt you for a Titleblock to use. The template file you started with only has one; that's the one you will use (Figure 14-1.1).

3. Click **OK** to select the **E1 30x42 Horizontal** titleblock.

NOTE: A new item shows up in the Project Browser under the heading Sheets. Once you get an entire drawing set ready, this list can be very long.

FIGURE 14-1.1 Select a Titleblock

The image shows a Revit sheet layout. On the right side, there is a titleblock. The top section contains the text 'Autodesk Revit'. Below it, there are several rows of text, including 'Project Name: Unnamed' and 'Sheet: A101'. The main area of the sheet is empty.

FIGURE 14-1.2 Initial Titleblock view

4. **Zoom** into the sheet number area (lower right corner).
5. Adjust the text to look similar to **Figure 14-1.3**.

The image shows a completed titleblock. It contains the following text:

ABC Developers

Harbor View Offices

Level 1 Floor Plan

Project Number: 2016-0043

Date: July 12, 2016

Drawn By: Dan Stine

Checked By: Bob T. Checker

A large sheet number 'A101' is prominently displayed.

At the bottom, there is a date and time stamp: 3/18/2016 5:11:39 PM.

TIP: Select the title block, hover the cursor over the text you wish to edit, and then click.

NOTICE: The time and date stamp. This helps to remember when a sheet was plotted, especially if you forget to update the date before printing.

FIGURE 14-1.3 Revised Titleblock data

6. **Zoom out** so you can see the entire sheet.
7. With the sheet fully visible, click and drag the **Level 1** label (under floor plans) from the *Project Browser* onto the sheet view.

You will see a box that represents the extents of the view you are placing on the current sheet.

8. Move the cursor around until the box is somewhat centered on the sheet (this can be adjusted later at any time).

Your view should look similar to **Figure 14-1.4**.

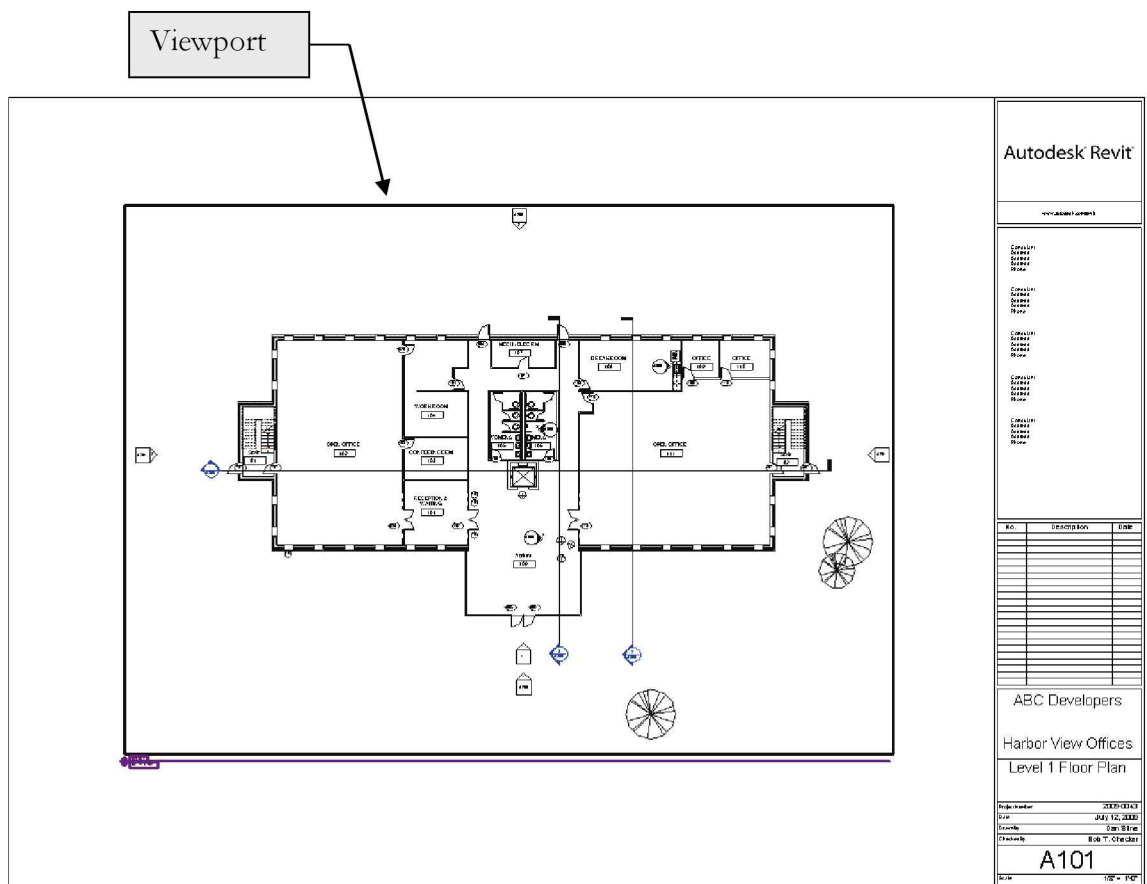


FIGURE 14-1.4 Sheet view with Level 1 added

9. Click the mouse in a “white” area (not on any lines) to deselect the Level 1 view. Notice the box goes away (unless the Crop Region is set to display in the view being placed).
10. **Zoom In** on the lower left corner to view the drawing identification symbol that Revit automatically added (Figure 14-1.5).

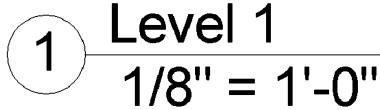


FIGURE 14-1.5 Drawing title

NOTE: The drawing number for this sheet is added automatically. The next view you add will be number 2. The view name is listed. This is another reason to rename the elevation and section views as you create them. Also notice that the drawing scale is listed. Again, this comes from the scale setting for the Level 1 view.

11. **Zoom Out** to see the entire sheet again.
12. Add two more sheets and set up Levels 2 and 3 on them:
 - a. Sheet A102 → Level 2 Floor Plan
 - b. Sheet A103 → Level 3 Floor Plan

NOTE: When you create a new sheet, most of the titleblock is filled in and the number has increased by 1. This information can be changed if needed.

TIP: Back in the view, if you select the Crop Region, you can select Edit Crop to adjust the perimeter to be L-shaped if needed. This also works with the Callout tool on the View tab.

Setting Up Exterior Elevations:

Next you will set up the exterior elevations on the A200 series sheets.

13. Create a new Sheet and adjust the title block data:
 - a. Sheet Title: Exterior Elevations
 - b. Sheet Number: A200
14. Drag the **South** elevation view onto the sheet. Place the drawing near the lower right.
15. Drag the **North** elevation view onto the same sheet. Place the drawing so that the drawing title tag is aligned. (Revit will snap to this position vertically.)

TIP: When placing a view on a sheet, Revit will display a dashed reference line when the model portion of the view aligns with an adjacent model view. This allows you to ensure views align with each other on a sheet.

Your drawing should look similar to Figure 14-1.6. These same steps can be applied to the floor plan views to hide the trees if desired.

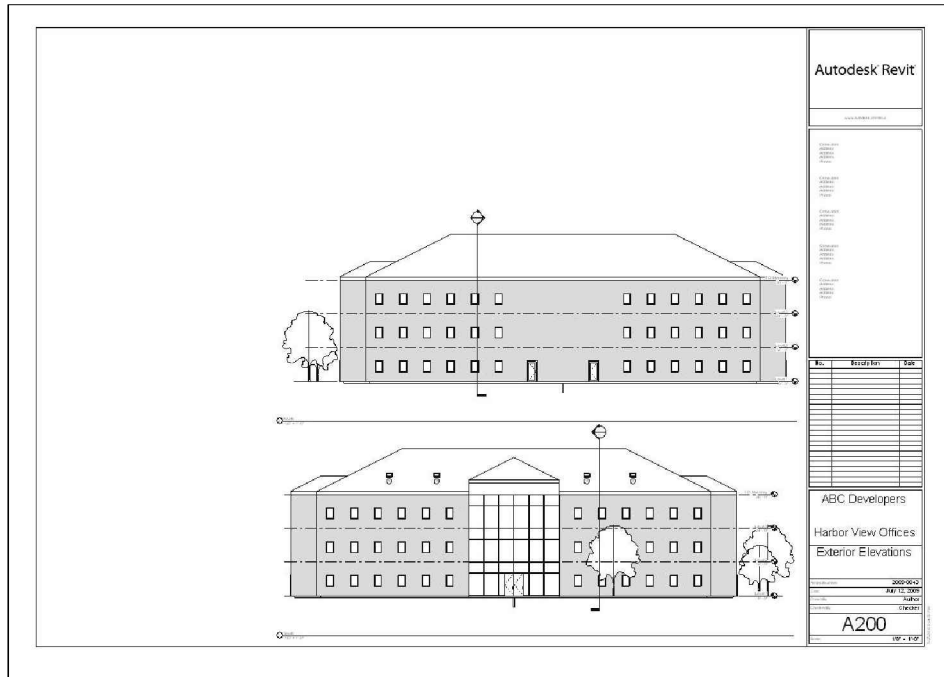


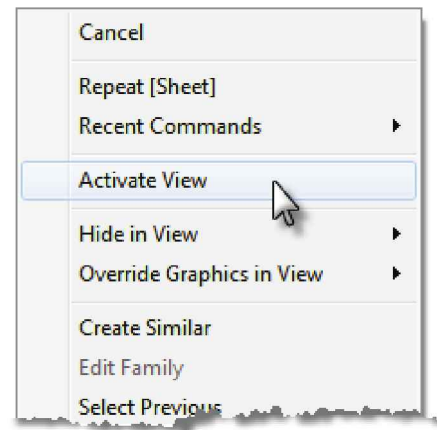
FIGURE 14-1.6 North and South exterior elevations

Next you will turn off the trees in the south view. Normally you would turn them off in all views. However, you will only turn them off in the south view to show that you can control visibility per view on a sheet.

16. Click anywhere on the South elevation view to select it.

17. Now **Right-Click** and select **Activate View** from the pop-up menu (see image to right).
TIP: you can also double-click within the view.

At this point you are in the viewport and can make changes to the project model to control visibility, which is what you will do next.



18. Type **VV** on the keyboard (do not press **Enter**).

19. In the visibility dialog **Uncheck Planting**.

20. Close the open dialog box.

21. Right-click anywhere in the drawing area and select **Deactivate View** from the pop-up menu. *TIP: you can also double-click outside of the viewport to deactivate.*

Now the trees are turned off for the South Elevation but not the North.

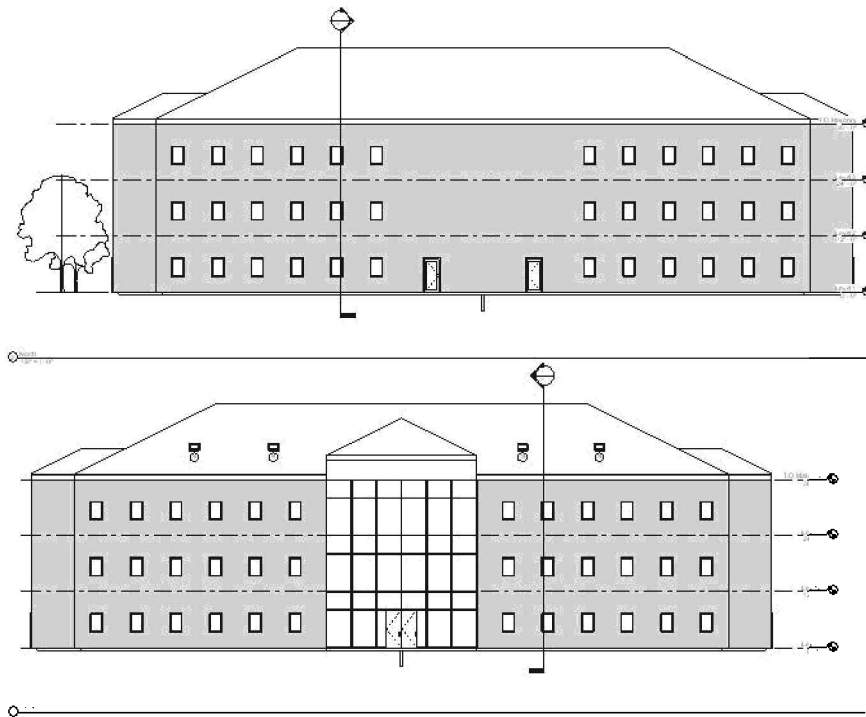


FIGURE 14-1.7 North & South exterior (trees removed from south view)

22. Create another sheet for the other two exterior elevations (East and West); the sheet should be number **A201**.

Now you will stop for a moment and notice that Revit is automatically referencing the drawings as you place them on sheets.

23. Switch to **Level 1** (see Figure 14-1.8).

Notice in Figure 14-1.8 that the number A200 represents the sheet number that the drawing can be found on. The number one (1) is the drawing number to look for on sheet A200.

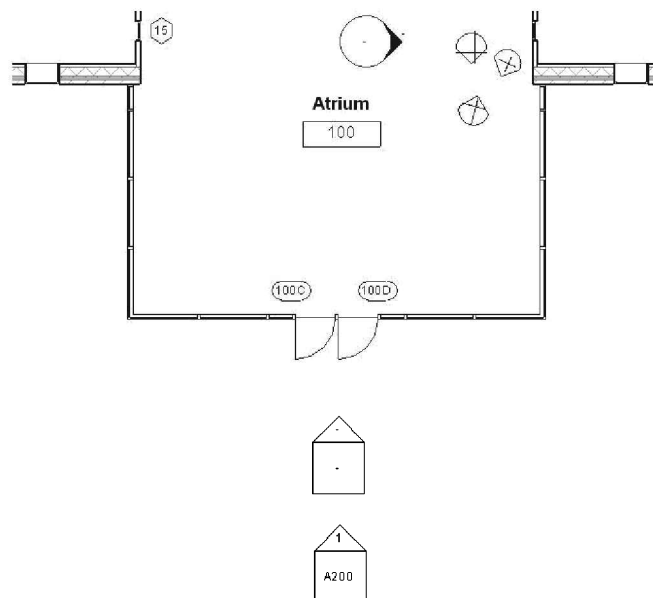


FIGURE 14-1.8 Level 1 – elev. Reference tag filled-in

Setting Up Sections:

24. Create a sheet numbered **A300** and titled **Building Sections**.
25. Add a cross section, in plan view, through the atrium area.
26. Add the three building sections as shown in **Figure 14-1.9**.

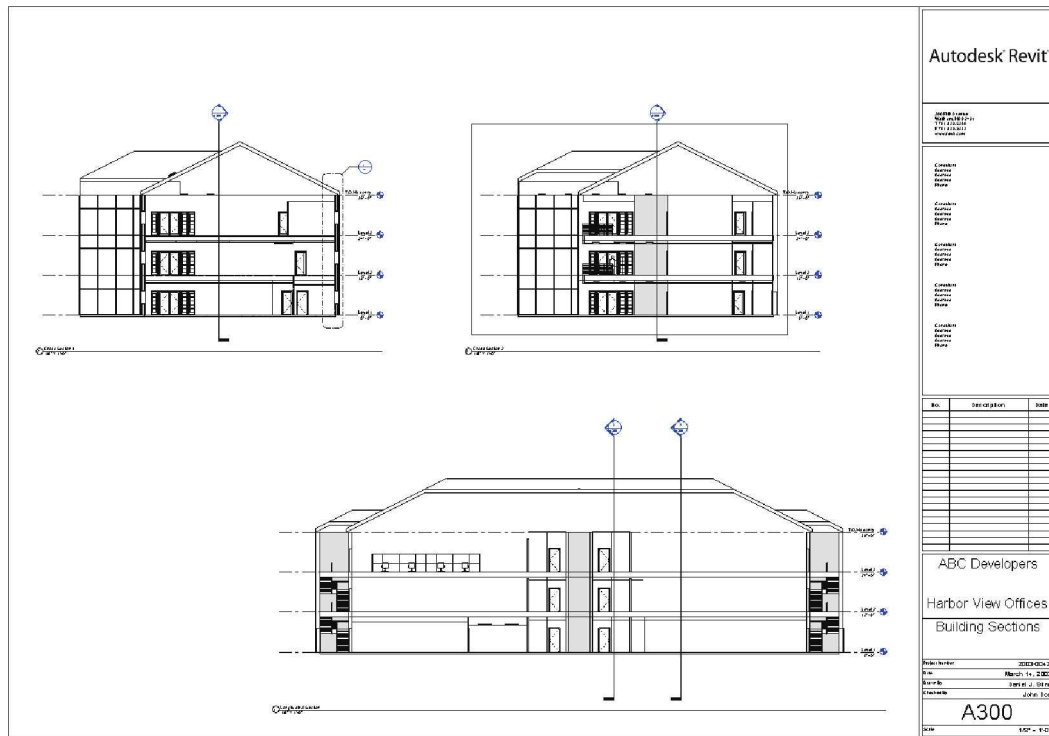


FIGURE 14-1.9 Sheet A300 building sections

27. Switch to Level 1 plan view and zoom into the area shown in Figure 14-1.10.

Notice, again, that the reference bubbles are automatically filled in when the referenced view is placed on a sheet. If the drawing is moved to another sheet, the reference bubbles are automatically updated.

You can also see in Figure 14-1.9 (above) that the reference bubbles on the building sections are filled in.

Keep in mind that the *View Scale* for each view controls the size of the text, dimensions and symbols. This ensures all the annotation is the same size on the printed sheet no matter what the scale of the drawing/view is. So if you added a 3"=1'-0" detail in the open space, in the lower left, on sheet A300 above; the annotation would be the same size as the adjacent building section views.

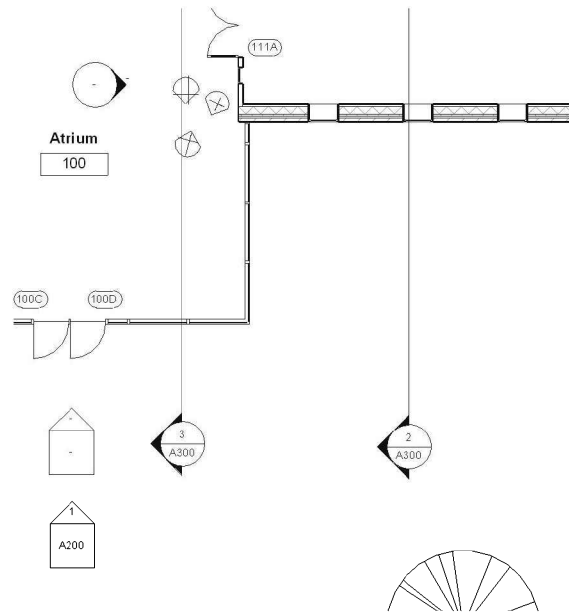


FIGURE 14-1.10 Level 1 – Section refs filled in

Setting Up Remaining Sheets:

Next you set up sheets for the remaining views that have yet to be placed on a sheet (except for the 3D views).

Create the following sheets and place the appropriate views on them:

- A111 Level 1 Reflected Ceiling Plan
- A112 Level 2 Reflected Ceiling Plan
- A113 Level 3 Reflected Ceiling Plan
- A400 Wall Sections
- A500 Interior Elevations
- A600 Details (see Figure 14-1.13)
- A800 Schedules

Notice that the new sheets, just created, can be found under *Sheets (all)* on the *Project Browser* (Figure 14-1.11).

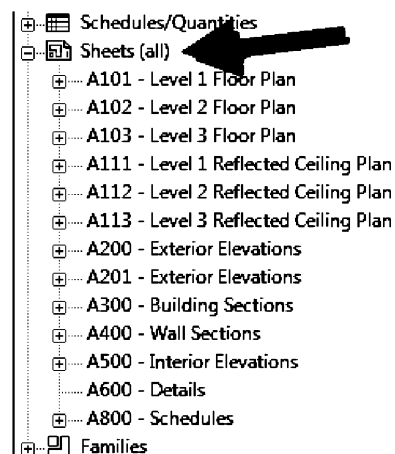


FIGURE 14-1.11
Project Browser; Sheets (all)

Question: On a large project with hundreds of views, how do I know for sure if I have placed every view on a sheet?

Answer: Revit has a feature called *Browser Organization* that can hide all the views that have been placed on a sheet. You will try this next.

28. Take a general look at the *Project Browser* to see how many views are listed. (See Figure 14-1.13 on page 14-10.)
29. Select **Views (all)** at the top of the *Project Browser* (Figure 14-1.12).
30. In the *Type Selector*, pick **not on sheets** (Figure 14-1.12).
31. Notice the list in the *Project Browser* now has fewer views listed. (See Figure 14-1.15 on page 14-10.)

The *Project Browser* now only shows views which have not been placed onto a sheet. Of course, you could have a few views that do not need to be placed on a sheet, but this feature will help eliminate errors.

Next you will reset the *Project Browser*.

32. Using the process just described, set the *Project Browser* back to **All** (Figure 14-1.12).

The image to the right, Figure 14-1.13, shows the details created in Chapter 8. If you recall, these are 2D Drafting Views not directly tied to the 3D model.

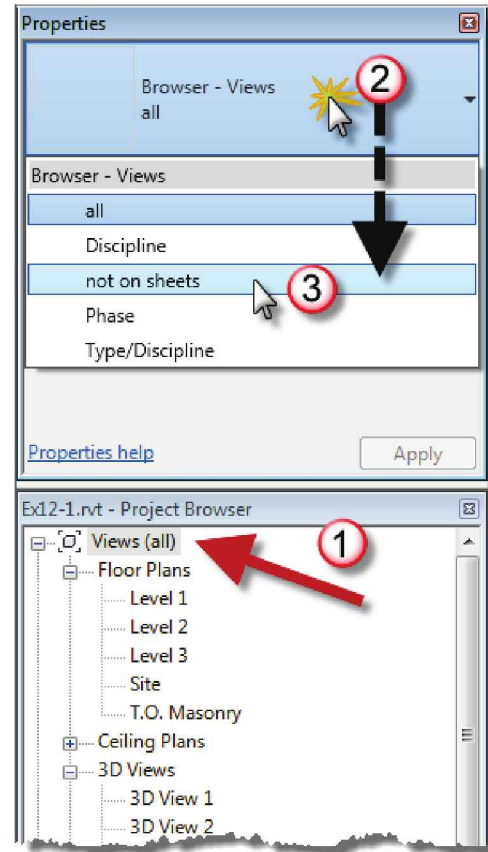


FIGURE 14-1.12 Project Browser and Type Selector

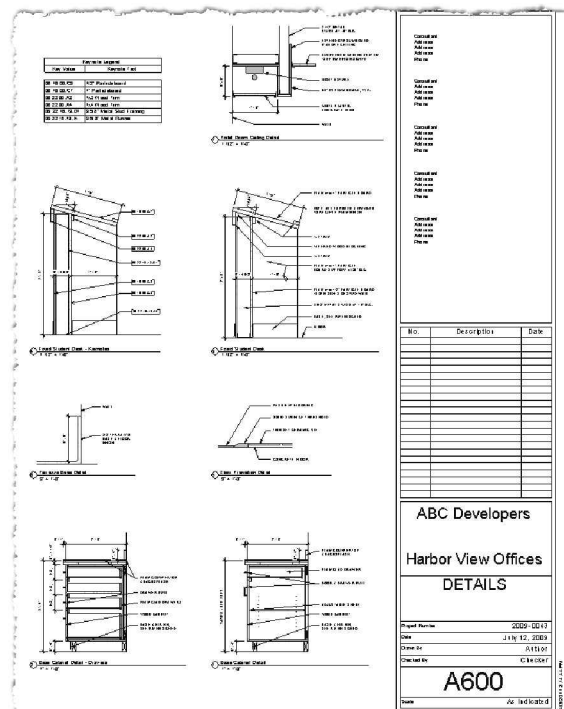


FIGURE 14-1.13 Drafting Views placed on sheet

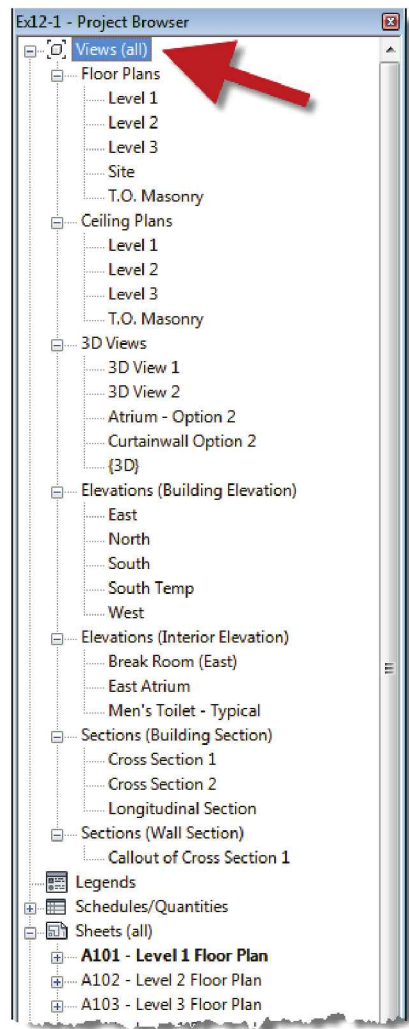


FIGURE 14-1.14
Project Browser; Views (all)

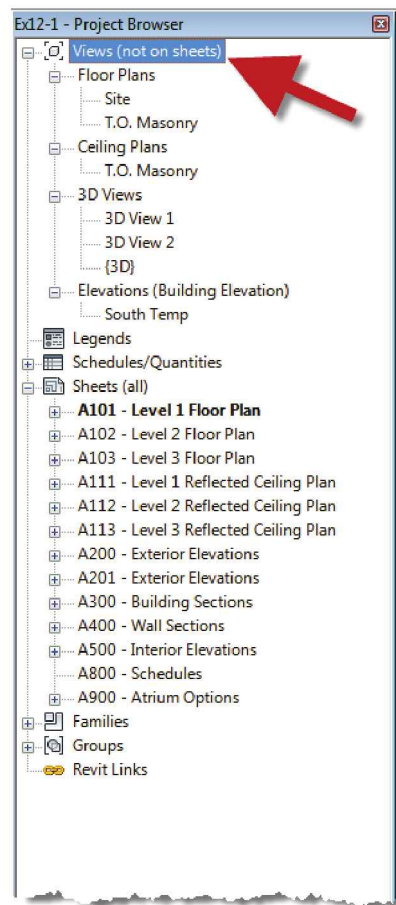


FIGURE 14-1.15
Project Browser; Views (not on sheets)

Sheets with Design Options:

Finally, you will set up a sheet to show two of the atrium *Design Options*.

33. Create a *Sheet* named **Atrium Options** and number it **A900**.
34. Open both *Atrium – Option 2* and *Curtainwall Option 2 views* and change the scale to $\frac{1}{8}" = 1'-0"$.
35. Place the two views, mentioned above, on sheet A900. (See Figure 14-1.16.)

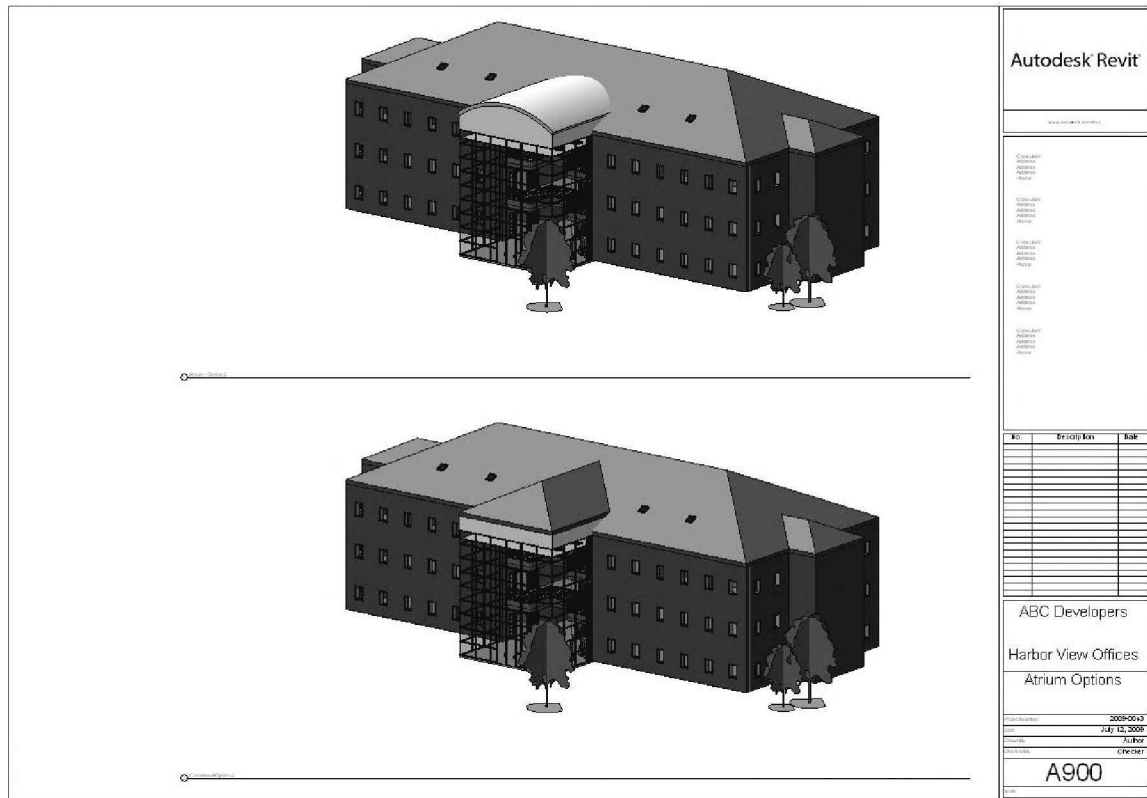


FIGURE 14-1.16 Atrium Options Sheet; two views with Design Options added

Design Options can be used to present alternates to the client or the contractor.

36. **Save** your project as **ex14-1.rvt**.

The sheet border can be modified to match the design firms sheet design, including adding a scanned logo; however, creating the logo in a native Revit format would be better. As you saw, the default sheet size in the Revit template is 30"x42". However, most design firms have standardized on 22"x34" as half size sets can easily be printed on 11"x17" paper. Half size sets are a nice size for a reference set at one's desk. Plus it is one-fourth the paper of a full size set.

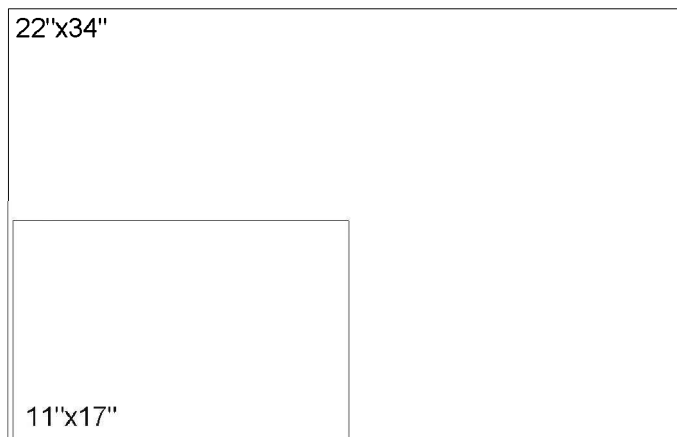


FIGURE 14-1.17 Standard sheet size of 22"x34" can be printed to 11"x17" at half scale

Exercise 14-1:

Sheet Index

Revit has the ability to create a sheet index automatically. The sheet index is placed on the first sheet in the set of drawings to help the contractor find specific information when it is needed. Some drawing sets can have hundreds of sheets. You will study this now.

Creating a Sheet List View:

1. Open ex14-1.rvt and **Save As** ex14-2.
2. Select **View** → **Create** → **Schedule** → **Sheet List**.



You are now in the *Sheet List* dialog box. Here you specify which fields you want in the sheet index and how to sort the list (Figure 14-2.1). This process is identical to the steps required to set up a schedule.

3. Add **Sheet Number** and **Sheet Name** to the right (*click Add*→).
4. On the *Sorting* tab, sort by **Sheet Number**.
5. Click **OK**.

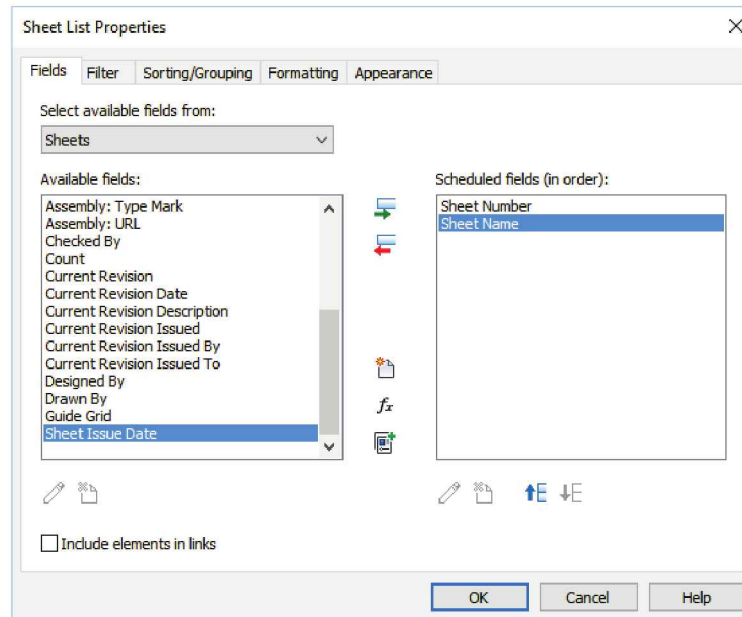


FIGURE 14-2.1
Sheet List Properties Dialog; sheet number and name “added”

Now you should notice that the *Sheet Names* are cut off because the column is not wide enough. You will adjust this next.

6. Move your cursor over the right edge of the *Drawing List* table and click-and-drag to the right until you can see the entire name (Figure 14-2.2).

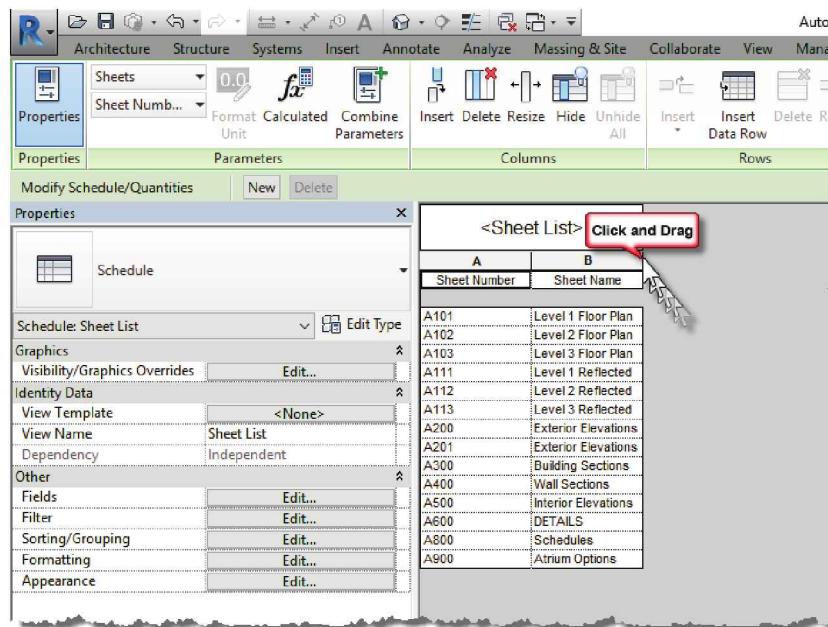


FIGURE 14-2.2

Sheet List view; notice sheet names are cut off in the right column

TIP: Via the Properties palette you can adjust the settings on the Sorting/Grouping tab to sort the sheets by sheet number.

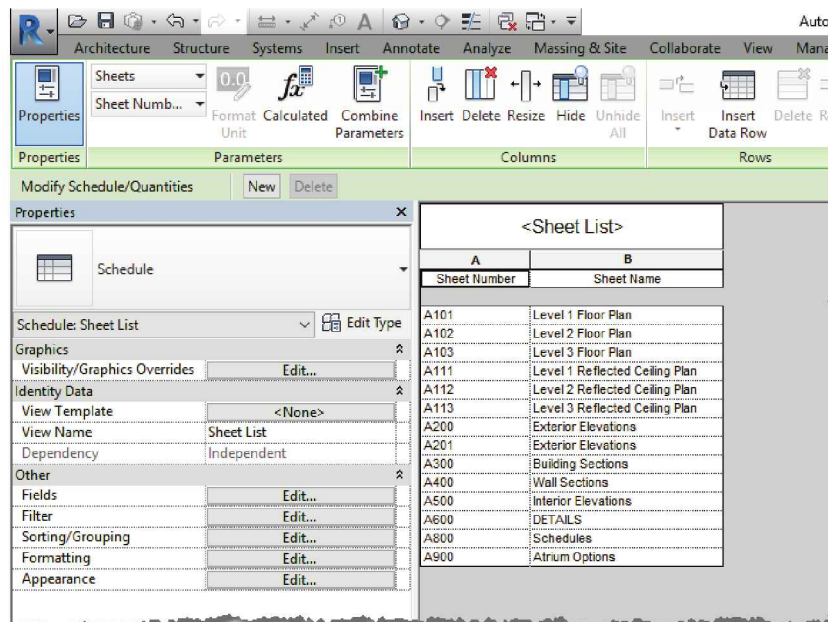


FIGURE 14-2.3

Sheet List view; sheet names are now visible

Setting Up a Title Sheet:

Now you will create a title sheet to place your sheet index on.

7. Create a new Sheet:
 - a. *Number:* **T001**
 - b. *Name:* **Title Sheet**
8. From the *Schedules/Quantities* category of the *Project Browser*, place the view named **Sheet List** on the *Title Sheet*. Once on the sheet, drag the “triangle” grip to adjust the column width (Figure 14-2.4).

Next you will place one of your rendered images that you saved to file (raster image). If you have not created a raster image, you should refer back to Lesson 11 and create one now (otherwise you can use any BMP or JPG file on your hard drive if necessary).



9. Select **Insert → Import → Image**.

10. Browse to your JPG or BMP raster image file, select it and click **Open** to place the Image.

11. Click on your title sheet to locate the image.

Your sheet should look similar to Figure 14-2.5.

Sheet List	
Sheet Number	Sheet Name
A101	Level 1 Floor Plan
A102	Level 2 Floor Plan
A103	Level 3 Floor Plan
A111	Level 1 Reflected Ceiling Plan
A112	Level 2 Reflected Ceiling Plan
A113	Level 3 Reflected Ceiling Plan
A200	Exterior Elevations
A201	Exterior Elevations
A300	Building Sections
A400	Wall Sections
A500	Interior Elevations
A600	DETAILS
A800	Schedules
A900	Atrium Options
T001	Title Sheet

FIGURE 14-2.4
Sheet list on a sheet



FIGURE 14-2.5 Sheet View: Title Sheet with sheet list, text and image added

12. Use the **Text** command to add the title shown in Figure 14-2.5.
 - a. Create a new text style named **1" Arial**.

When you have raster images in your project, you can manage them via the *Raster Images* dialog.

13. Select **Insert → Import → Manage Images**.  **Manage Images**

You are now in the *Raster Image* dialog which gives you a little information about the image and allows you to delete it from the project (Figure 14-2.6). You can also “swap” the image out with another image by using the *Reload From...* button.

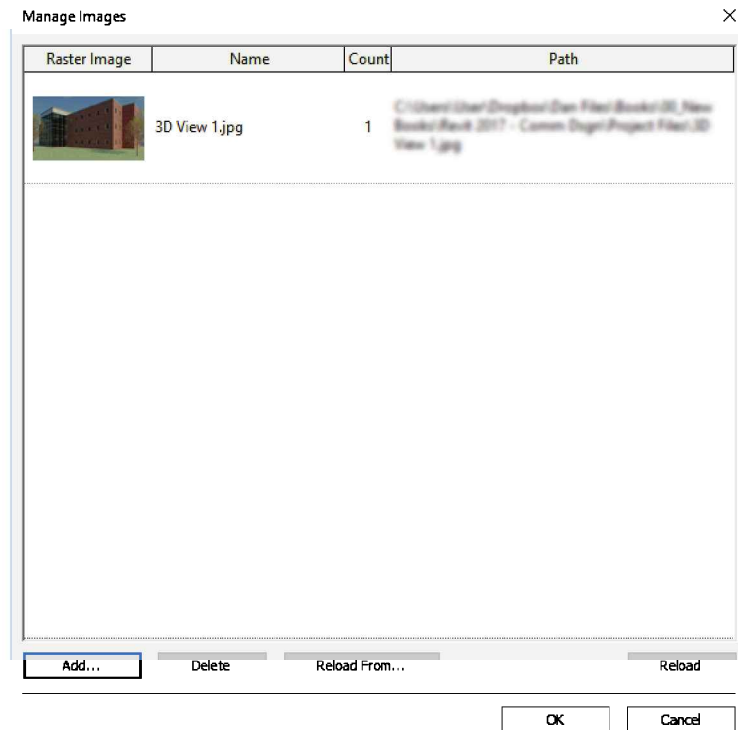


FIGURE 14-2.6 Raster Image dialog

14. Click **OK** to close the *Raster Images* dialog.
15. **Save** your project as **ex14-2.rvt**.

TIP: Appears in Sheet List

If you have a presentation drawing setup on a sheet and don't want it to show up in the sheet index (i.e. sheet list), simply uncheck the **Appears in Sheet List** in the *Properties Palette*.

Exercise 14-3:

Printing a Set of Drawings

Revit has the ability to print an entire set of drawings in addition to printing individual sheets. You will study this now.

Printing a Set of Drawings

1. Open **ex14-2.rvt**.
2. Select **Application Menu → Print**.
3. In the *Print range* area, click the option **Selected views/sheets** (Figure 14-3.1).
4. Click the **Select...** button within the *Print range* area.

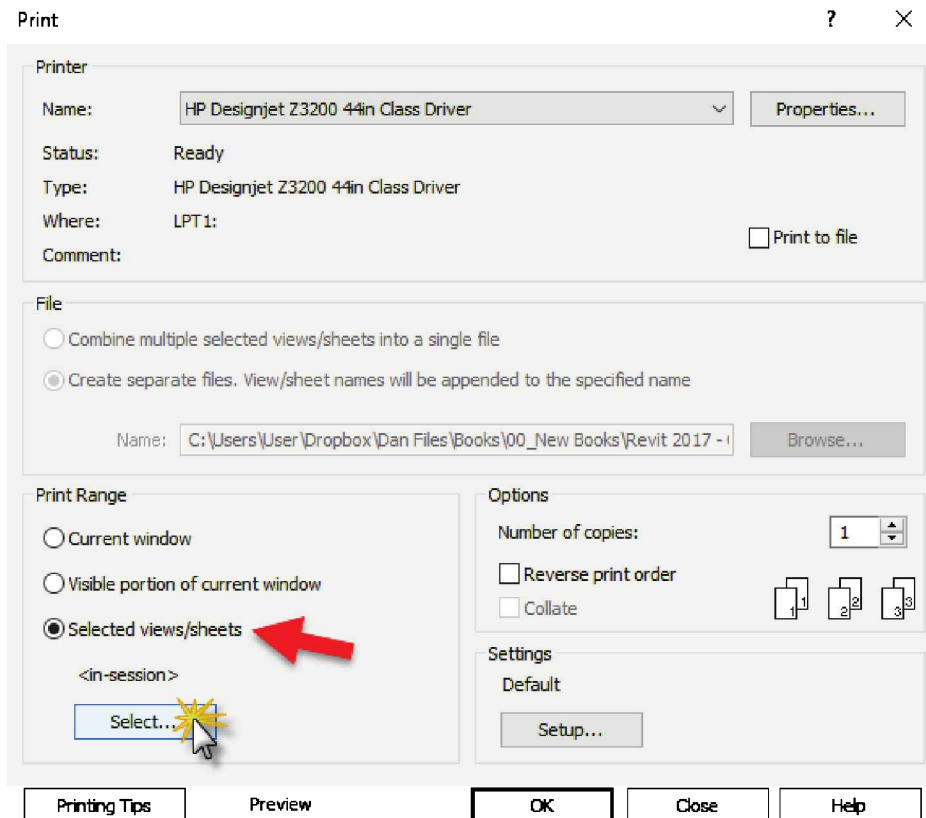


FIGURE 14-3.1 Print dialog box

You should now see a listing of all views and sheets (Figure 14-3.2).

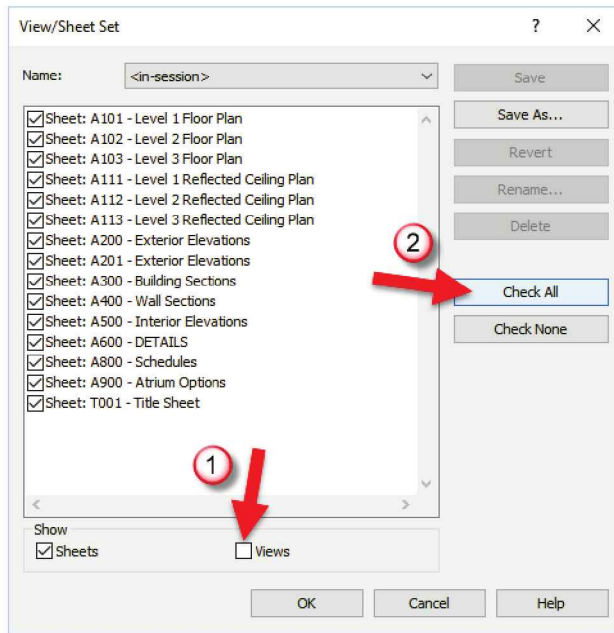


FIGURE 14-3.2 Selecting tool for printing

Notice at the bottom you can **Show** both **Sheets** and **Views**, or each separately. Because you are printing a set of drawings you will want to see only the sheets.

5. **Uncheck** the **Views** option.

The list is now limited to just sheets set up in your project.

6. Select all the drawing Sheets.

7. Click **OK** to close the **View/Sheet Set** dialog.

***FYI:** Once you have selected the sheets to be plotted you can click **Save**. This will save the list of selected drawings to a name you choose. Then, the next time you need to print those sheets, you can select the name from the drop-down list at the top (Figure 14-3.2). On very large projects (e.g., with 20 floor plan sheets) you could have a “Plans” list saved, a “Laboratory Interior Elevations” list saved, etc.*

8. IF YOU ACTUALLY WANT TO PRINT A FULL SET OF DRAWINGS, you can do so now by clicking **OK**. Otherwise click **Cancel**.

9. You do not need to save the file at this time.

Self-Exam:

The following questions can be used as a way to check your knowledge of this lesson. The answers can be found at the bottom of this page.

1. You have to manually fill in the reference bubbles after setting up the sheets. (T/F)
2. You cannot control the visibility of objects per viewport. (T/F)
3. It is possible to see a listing of only the views that have not been placed on a sheet via the *Project Browser*. (T/F)
4. You only have to enter your name on one titleblock, not all. (T/F)
5. Use the _____ tool to create another drawing sheet.

Review Questions:

The following questions may be assigned by your instructor as a way to assess your knowledge of this section. Your instructor has the answers to the review questions.

1. You need to use a special command to edit text in the titleblock. (T/F)
2. The template you started with has several titleblocks to choose from. (T/F)
3. You only have to enter the project name on one sheet, not all. (T/F)
4. The scale of a drawing placed on a sheet is determined by the scale set in that view's properties. (T/F)
5. You can save a list of drawing sheets to be plotted. (T/F)
6. Use the _____ tool to edit the model from a sheet view.
7. The reference bubbles will not automatically update if a drawing is moved to another sheet. (T/F)
8. On new sheets, the sheet number on the titleblock will increase by one from the previous sheet number. (T/F)

SELF-EXAM ANSWERS:
1 – F, 2 – F, 3 – T, 4 – F, 5 – Sheet